LISTING OF CLAIMS

1. (currently amended) A disk drive, comprising:

a base casting;

at least one disk surface coupled to the base casting;

an actuator assembly for ~~arcuately~~ accurately positioning at least one slider over the disk surface;

a suspension load beam having a dimple, wherein the load beam is coupled to the actuator assembly; and

a laminated flexure coupled to the suspension load beam, the flexure having a surface adapted to receive a slider and a surface adapted to contact the dimple, the flexure including a head-disk interaction sensor integral with said flexure for outputting a sensor signal when the slider contacts a disk of the disk drive wherein the head-disk interaction sensor is a pressure sensor sensing a pressure between the flexure and the dimple generated by the slider contacting the disk of the disk drive and wherein the pressure sensor includes a piezoelectric material layer and a conductive material layer, the piezoelectric material layer and the conductive material layer each being formed as a layer of the laminated flexure and each being patterned to substantially correspond to a surface region of the flexure corresponding to the dimple.

2. (currently amended) The disk drive according to claim 1, wherein the head-disk interaction sensor ~~is~~ further includes an accelerometer sensing an acceleration of the flexure generated by the slider contacting the disk of the disk drive.

3. (cancelled)

4. (currently amended) The disk drive according to claim 2, wherein the accelerometer ~~includes a~~ is coupled with said piezoelectric material layer and ~~a~~ said conductive material layer~~, the piezoelectric material layer and the conductive material~~

~~layer each being formed as a layer of the laminated flexure and each being patterned to substantially correspond to a top surface of a back portion of the slider~~.

5. (cancelled)

6. (cancelled) .

7. (currently amended) The disk drive according to claim 1 ~~6~~, wherein the piezoelectric material layer generates a voltage between a top portion and a bottom portion of the piezoelectric material layer when the slider contacts the disk of the disk drive, the voltage generated between the top portion and the bottom portion of the piezoelectric material layer corresponding to a magnitude of a force with which the slider contacts the disk of the disk drive.

8. (currently amended) The disk drive according to claim 1 ~~6~~, wherein the piezoelectric material layer and the conductive material layer are patterned to be a substantially square shape.

9. (currently amended) The disk drive according to claim 1 ~~6~~, wherein the piezoelectric material layer and the conductive material layer are patterned to be a substantially circular shape.

10. (currently amended) The disk drive according to claim 1 ~~5~~, wherein ~~the pressure sensor includes a piezoelectric material layer and a conductive material layer that are each formed as a layer of the laminated flexure,~~ the piezoelectric material layer and the conductive material layer each being patterned to form a first region and a second region, the first and second regions respectively corresponding to a front portion and a back portion of the slider and respectively corresponding to first and second surface regions of the surface of the flexure adapted to contact the dimple.

11. (original) The disk drive according to claim 10, wherein the first region of the piezoelectric material layer generates a first voltage between a top portion and a bottom portion of the first region of the piezoelectric material layer when the slider contacts the disk of the disk drive, the second region of the piezoelectric material layer generates a second voltage between a top portion and a bottom portion of the second region of the piezoelectric material layer when the slider contacts the disk of the disk drive, the first and second voltages respectively generated between the top portions and the bottom portions of the first and second regions of the piezoelectric material layer each corresponding to a magnitude of a force with which the slider contacts the disk of the disk drive, and

wherein a pitch mode of the slider is determined based on a difference between the first voltage and the second voltage.

12. (original) The disk drive according to claim 10, wherein the first region of the piezoelectric material layer generates a first voltage between a top portion and a bottom portion of the first region of the piezoelectric material layer when the slider contacts the disk of the disk drive, the second region of the piezoelectric material layer generates a second voltage between a top portion and a bottom portion of the second region of the piezoelectric material layer when the slider contacts the disk of the disk drive, the first and second voltages respectively generated between the top portions and the bottom portions of the first and second regions of the piezoelectric material layer each corresponding to a magnitude of a force with which the slider contacts the disk of the disk drive, and

wherein a first bending mode of a body of the slider body can be determined based on a sum of the first and second voltages.

13. (original) The disk drive according to claim 1, further comprising a write-inhibit circuit responsive to the sensor signal by inhibiting a write operation of the disk drive.

14. (original) The disk drive according to claim 13, wherein the write-inhibit circuit includes a filter circuit conditioning the sensor signal.

15. (original) The disk drive according to claim 14, wherein the filter circuit is a low-pass filter having a passband that is greater than about 20 kHz.

16. (original) The disk drive according to claim 14, wherein the filter circuit is a high-pass filter having a passband that is less than about 2 MHz.

17. (original) The disk drive according to claim 14, wherein the filter circuit is a bandpass filter having a passband between about 20 kHz and about 2 MHz.

18. (original) The disk drive according to claim 14, wherein the filter circuit is a bandpass filter having a passband corresponding to about a pitch frequency of the slider.

19. (original) The disk drive according to claim 14, wherein the filter circuit is a passband filter having a narrow passband at about 200 kHz.

20. (original) The disk drive according to claim 14, wherein the filter circuit is a bandpass filter having a passband corresponding to about a bending mode frequency of a body of the slider.

21. (original) The disk drive according to claim 14, wherein the filter circuit is a passband filter having a narrow passband at about 1.6 MHz.

22. (original) The disk drive according to claim 14, wherein the filter circuit is a passband filter having a passband that includes about 200 kHz and about 1.6 MHz.

23. (new) <u>A disk drive, comprising:</u>

<u>a base casting;</u>

at least one disk surface coupled to the base casting;

an actuator assembly for accurately positioning at least one slider over the disk surface;

a suspension load beam having a dimple, wherein the load beam is coupled to the actuator assembly; and

a laminated flexure coupled to the suspension load beam, the flexure having a surface adapted to receive a slider and a surface adapted to contact the dimple, the flexure including a head-disk interaction sensor integral with said flexure for outputting a sensor signal when the slider contacts a disk of the disk drive wherein the head-disk interaction sensor comprises an accelerometer sensing an acceleration of the flexure generated by the slider contacting the disk of the disk drive and wherein the accelerometer includes a piezoelectric material layer and a conductive material layer, the piezoelectric material layer and the conductive material layer each being formed as a layer of the laminated flexure and each being patterned to substantially correspond to a top surface of a back portion of the slider.

24. (new) A disk drive, comprising:

a base casting;

at least one disk surface coupled to the base casting;

an actuator assembly for accurately positioning at least one slider over the disk surface;

a suspension load beam having a dimple, wherein the load beam is coupled to the actuator assembly; and

a laminated flexure coupled to the suspension load beam, the flexure having a surface adapted to receive a slider and a surface adapted to contact the dimple, the flexure including a head-disk interaction sensor integral with said flexure for outputting a sensor signal when the slider contacts a disk of the disk drive wherein the head-disk interaction sensor is an accelerometer sensing an acceleration of the flexure generated by the slider contacting the disk of the disk drive and wherein the accelerometer includes a piezoelectric material layer and a conductive material layer,

the piezoelectric material layer and the conductive material layer each being formed as a layer of the laminated flexure and each being patterned to substantially correspond to a top surface of a back portion of the slider or wherein the head-disk interaction sensor is a pressure sensor sensing a pressure between the flexure and the dimple generated by the slider contacting the disk of the disk drive and wherein the pressure sensor includes a piezoelectric material layer and a conductive material layer, the piezoelectric material layer and the conductive material layer each being formed as a layer of the laminated flexure and each being patterned to substantially correspond to a surface region of the flexure corresponding to the dimple.